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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/912,072	07/24/2001	James W. Moyer	5051-445	3267

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EXAMINER	
BAUSCH, SARAE L	

ART UNIT	PAPER NUMBER
1634	

DATE MAILED: 08/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/912,072	MOYER ET AL.	
	Examiner	Art Unit	
	Sarae Bausch	1634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 May 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7,10,11,21-24,27-30,52,63,64 and 69* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7,10,11,21-24,27-30,52,63,64 and 69* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

S.O.D

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 05/23/2005 has been entered.

2. Currently, claims 1-7, 10-11, 21-24, 27-30, 52, 63-64, and 69 are under examination in the instant application. Claims 8-9, 12-20, 25-26, 31-51, 53-62 and 65-68 have been canceled. All the amendments and arguments have been thoroughly reviewed but were found insufficient to place the instantly examined claims in condition for allowance. Response to arguments follow. This action is Non-FINAL.

3. The declaration submitted under 37 CFR 1.132 filed on 05/23/2005 by James W. Moyer, is acknowledged, however is not found persuasive to overcome the maintained rejections and is addressed throughout the response to arguments sections below.

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

New Grounds of Rejections

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1, 3, 5-7, 21, 23-24, 63 and 69 rejected under 35 U.S.C. 103(a) as being unpatentable over Ling et al. (*HortScience*, 1997) in view of Loh et al. (*Annals of Botany*, 1999 84(2): 155-161), as defined by Dice (*Ecology*, 1945).

Ling et al. teaches a method of distinguishing genetic relationships and diversity between Poinsettia cultivars, including breeding family 'Freedom' (instant claim 5). The method utilizes RAPD analysis to distinguish the identities between Poinsettia cultivars in order to "alleviate some of the confusion of cultivar identity associated with morphological characteristics and multiple cultivar registrations" (p. 124, 1st-2nd column). Figure 3 displays the amplified restriction fragments generated by RAPD analysis and figure 1 demonstrates the cultivar relationships. The collection of RAPD data, or database as require in claim 28, enables the computation of the displayed cultivar relationships both in Figure 1 and 2. Ling et al. teach that the RAPD markers can be used for identification of poinsettia cultivars and that the results indicate that RAPD can be used to determine the genetic relationships among cultivars and to

estimate genetic diversity between cultivars (page 124, 1st full paragraph). Ling et al. does not teach the AFLP method steps to distinguish genetic relationship or diversity.

Loh et al. teach a method using an AFLP marker protocol to identify and study intra- and inter- specific variations in *Caladium bicolor* cultivars, an ornamental asexual plant. Loh et al. teach using AFLP to generate a fingerprint of each plant (page 151, paragraph bridging 1st and 2nd column) and determine the identity/diversity by calculating the genetic dissimilarly estimate (GDE) in all pair wise comparisons (page 159, *Data analysis*) (instant claims 63 and 69). Loh et al. teach digesting genomic DNA with EcoRI and Mse I (page 159, *AFLP analysis*) (instant claims 7, 24), which have tetranucleotide and hexanucleotide recognition sites (instant claims 6, 23). The genetic dissimilarity of *Caladium bicolor* is shown in table 3 and table 4, determining the diversity of the each cultivar of *Caladium bicolor* and *C. schomburgkii* (page 157 and 160) (instant claims 3 and 21). Dice defines the values or scores range from 0 to 1 where 0 indicates dissimilarity and 1 indicates similarity (pp. 298-99, bridging paragraph). Loh et al. also teach using AFLP revealed consistent diversity between C. schomburgkii and C. bicolor cultivars and between closely related taxa of Caladium (page 161, 1st column, 2nd full paragraph). Loh et al. et al. teach using AFLP markers is useful in differentiating and characterizing cultivars within a Caladium species (page 161, 1st column, last paragraph).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention was made to improve the method of identifying poinsettia cultivars by RAPDs marker taught by Ling et al. to include the AFLP marker assay as taught by Loh et al. One of ordinary skill in the art would have been motivated to improve the method of genetic analysis used in Ling et al. from RAPD to the AFLP procedure taught by Loh et al. because Loh et al.

teaches of the advantages of using the AFLP procedure to analyze genetic relationships and diversity in ornamental plants in order to obtain reproducible and reliable results. The ordinary artisan would have had a reasonable expectation of success in using AFLP marker assay taught by Loh in the method taught by Ling et al. of Poinsettia cultivar genetic analysis because Loh et al. teach using AFLP markers to identify inter and intra-cultivars in C.bicolors, an ornamental asexual plant, like that of Poinsettia cultivars, to determine their diversity to provide a reliable and reproducible means of fingerprinting the many Caladium cultivars available commercially and for newly developed cultivars (page 155, 2nd column, 1st paragraph).

Maintained Rejections

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 1, 3, 5-7, 21, 23-24, 30, 63 and 69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ling et al. (*HortScience*, 1997) in view of Barcaccia et al. (*Journal of Horticultural Science and Biotechnology*, 1999 74(2): 243-50), as defined by Dice (*Ecology*, 1945).

Ling et al. teaches a method of distinguishing genetic relationships and diversity between Poinsettia cultivars, including breeding family 'Freedom' (instant claim 5). The method utilizes RAPD analysis to distinguish the identities between Poinsettia cultivars in order to "alleviate some of the confusion of cultivar identity associated with morphological characteristics and multiple cultivar registrations" (p. 124, 1st-2nd column). Figure 3 displays the amplified restriction fragments generated by RAPD analysis and figure 1 demonstrates the cultivar relationships. The collection of RAPD data, or database as require in claim 28, enables the computation of the displayed cultivar relationships both in Figure 1 and 2. Ling et al. teach that the RAPD markers can be used for identification of poinsettia cultivars and that the results indicate that RAPD can be used to determine the genetic relationships among cultivars and to estimate genetic diversity between cultivars (page 124, 1st full paragraph). Ling et al. does not teach the AFLP method steps to distinguish genetic relationship or diversity.

Barcaccia et al. teach a method using an AFLP marker protocol to distinguish genetic relationships and diversity of *Pelagorium peltatum*, an ornamental asexual plant. Barcaccia et al. teach using AFLP to generate a fingerprint of each plant (page 245, *AFLP markers*) and determine the identity/diversity by calculating the genetic dissimilarly estimate (GDE) in all pair wise comparisons using the formula by Dice et al (1945) (page 245-6, *Data collection and*

analysis) (instant claims 63 and 69). Barcaccia et al. teach digesting genomic DNA with EcoRI and Mse I (page 245, 1st column, 4th full paragraph) (instant claims 7, 24), which have tetranucleotide and hexanucleotide recognition sites (instant claims 6, 23). The genetic dissimilarity of *P. peltatum* is shown in Table III, determining the diversity of the nine plants and the recovered flower (page 248) (instant claims 3 and 21). Dice defines the values or scores range from 0 to 1 where 0 indicates dissimilarity and 1 indicates similarity (pp. 298-99, bridging paragraph). Barcaccia teaches all calculations and analyses were conducted on Numerical Taxonomy and Multivariate Analysis System (NTSYS-pc) (page 246, 1st full paragraph, 1st column) (instant claim 30). Barcaccia et al. also teach RAPD marker analysis but teaches that banding patterns were not reproducible in subsequent replicated PCR experiments and therefore, not useable in molecular comparison with the plants (page 247, 2nd column, 1st full paragraph). Further, Barcaccia et al. teach using AFLP revealed consistent diversity between the flower recovered and each of nine DNA samples (page 247, 2nd column, last paragraph). Barcaccia et al. teach that AFLP fingerprinting combines the reliability of RFLP assay with efficiency of the PCR technique and AFLP markers proved to be much more powerful and reliable tool capable of probing a large number of genomic loci per experiment and decimating genetic differences, even between phenotypically similar individuals (page 249, 2nd column, 1st full paragraph). Barcaccia et al. teach using AFLP markers to identify cultivars unambiguously and definitively and are effective for calculating the genetic distance between cultivars (page 249, 2nd column, 3rd full paragraph).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention was made to improve the method of identifying poinsettia cultivars by RAPDs

marker taught by Ling et al. to include the AFLP marker assay as taught by Barcaccia et al. One of ordinary skill in the art would have been motivated to improve the method of genetic analysis used in Ling et al. from RAPD to the AFLP procedure taught by Barcacci et al. because Barcacci et al. teaches of the advantages of using the AFLP procedure to analyze genetic relationships and diversity in ornamental plants in order to obtain reproducible, reliable, efficient results. Further, Barcacci et al. motivates the ordinary artisan to use the AFLP technique because Barcacci et al. teaches that using AFLP fingerprinting combines the reliability of RFLP assay with efficiency of the PCR technique and AFLP markers proved to be much more powerful and reliable tool capable of probing a large number of genomic loci per experiment and discrimating genetic differences, even between phenotypically similar individuals (page 249, 2nd column, 1st full paragraph). The ordinary artisan would have had a reasonable expectation of success in using AFLP marker assay taught by Barcaccia in the method taught by Ling et al. of Poinsettia cultivar genetic analysis because Barcaccia et al. teach using AFLP markers to identify cultivars unambiguously and definitively and teaches that AFLP markers have the ability to identify new cultivars to determine their diversity with respect to previously registered cultivars of decorative plants (ornamental plants) (page 249, 2nd column 3rd full paragraph).

Response to Arguments

11. Applicants traverse the rejection on page 8-12 of the action mailed 05/23/2005. Applicants assert on page 9, 1st full paragraph, that there is no suggestion in the cited Barcaccia et al. publication that AFLP analysis can be applied to poinsettia or suitable for the study of ornamental plants and Barcaccia et al. is solely concerned with geraniums and the applicability of AFLPs to geranium cultivars. Applicants assert that there is no objective basis for the

combination of Ling et al. and Barcaccia et al and there is no motivation to one of ordinary skill in the art to practice the presently claimed methods. This response has been thoroughly reviewed but not found persuasive. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, it would be obvious to combine the references because Ling et al. teach a method of determining the genetic relationship among cultivars of poinsettia by the use of RAPD markers for identification of poinsettia cultivars and Ling et al. teach that the results indicate that RAPD can be used to determine the genetic relationships among cultivars and to estimate genetic diversity between cultivars (page 124, 1st full paragraph). Barcaccia et al. teach using AFLP revealed consistent diversity between the unknown flower recovered and each of nine DNA samples (page 247, 2nd column, last paragraph). Barcaccia et al. teach that AFLP fingerprinting combines the reliability of RFLP assay with efficiency of the PCR technique and AFLP markers proved to be much more powerful and reliable tool capable of probing a large number of genomic loci per experiment and decimating genetic differences, even between phenotypic ally similar individuals (page 249, 2nd column, 1st full paragraph). Barcaccia et al. teach using AFLP markers to identify cultivars unambiguously and definitively and are effective for calculating the genetic distance between cultivars (page 249, 2nd column, 3rd full paragraph). Therefore, one of ordinary skill in the art

would be motivated to improve the method of genetic analysis used in Ling et al. from RAPD to the AFLP procedure taught by Barcaccia et al. because Barcaccia et al. teaches of the advantages of using the AFLP procedure to analyze genetic relationships and diversity in ornamental plants in order to obtain reproducible, reliable, efficient results. Furthermore, Barcaccia et al. teach that pelargoniums are genetically uniform but to an increasing extent are commercial hybrids with more than 4000 cultivars created by controlled mating or mutations (see page 243, 2nd column, 1st full paragraph). Therefore, one of skill in the art would be motivated to use the method of Barcaccia to identify genetic profiles of poinsettia plants as poinsettia plants are commercial hybrids with many cultivars that have been controlled by mating or mutations and are genetically uniform.

The response asserts that the declaration by Moyer, in paragraph 5, describes that the Barcaccia's work in geranium is not predictive of the outcome in poinsettia. The response and declaration have been thoroughly considered but not found persuasive because Moyer et al. states that the gene pools of poinsettia and geraniums are distinct and that the work of Barcaccia et al. would not have been predictive with respect to poinsettias because it would not have been known that AFLP analysis would be able to detect sufficient inter-cultivar polymorphisms among poinsettia cultivars. However, neither the rejection or the claims are comparing the gene pools of poinsettia and geraniums. The rejection sets forth a prima facie case of obviousness that one of ordinary skill in the art would be motivated to use the technique of AFLP for estimating a genetic relationship between poinsettias. Furthermore, Barcaccia et al. teach that that pelargoniums (geraniums) are genetically uniform but to an increasing extent are commercial hybrids with more than 4000 cultivars created by controlled mating or mutations (see page 243,

2nd column, 1st full paragraph) and therefore teaches that AFLP can determine polymorphic variations and one of ordinary skill in the art would be motivated to use AFLP to detect polymorphic variations. If a polymorphic variation existed, one would expect that AFLP would detect the variation successfully, as taught by Barcaccia et al, Sukhwinder et al, and Barker et al. for many different types of plants (rice, geraniums, willow).

In paragraph 6, Moyer et al. teaches that poinsettia's are asexually reproducing species with a narrow genetic base and most poinsettia cultivars have been identified by selection of sports or induced mutations and as a result there is little pedigree information available for poinsettia and therefore it was uncertain if there would be sufficient genetic polymorphisms detectable by AFLP among poinsettia cultivars. This response has been thoroughly reviewed but not found persuasive because Barcaccia et al teach the use of AFLP to recognize polymorphisms found in geraniums that are genetically uniform with more than 4000 cultivars that have been created by controlled mating (sporting) or mutations, as Moyer et al. teaches with poinsettia's. Therefore one would expect that AFLP could be used for poinsettias since there is little variability between geranium cultivars and Barcaccia et al. teach the efficiency of the PCR technique and AFLP markers are a powerful and reliable tool capable of probing a large number of genomic loci per experiment and discrimating genetic differences, even between phenotypically similar individuals (page 249, 2nd column, 1st full paragraph). Therefore, since the genetic base of geraniums is very narrow and the method by Barcaccia et al. detected polymorphic variations it would be obvious to use the method of Barcaccia for detection of polymorphic variations with a reasonable expectation of success for poinsettias.

The response asserts that on page 10, 2nd full paragraph, at most the combination of Ling et al, Barcaccia et al. and Dice reference would have made it obvious to try to apply AFLPs to poinsettia's cultivars. Therefore, applicant is disclosing that the method of Ling in view of Barcaccia and Dice anticipates the claimed invention. Applicant asserts that "obvious to try" is a legally insufficient basis for rejection under 103(a) and there is no reasonable expectation of success with respect to the present invention. The response asserts in the declaration by Moyer on page 2, paragraph 8, that the unpredictability in fingerprinting methods as applied to poinsettia is evident in our work with microsatellites to evaluating genetic relationships using simple sequence repeat analysis (SSR). This response has been thoroughly reviewed but not found persuasive as the claims are limited to the use of SSR or microsatellites to evaluate the genetic relationships among poinsettias. The claims simply require some level of polymorphic analysis using AFLP which is obvious over Ling et al, Barcaccia et al. and Dice.

The response further asserts on page 10 of the response, last paragraph, that each of the fingerprinting methods, RAPD, AFLP, and microsatellites detect different markers within the plant genome. The response asserts that the microsatellite clearly show that you must detect the "right" marker and unexpectedly the inventors have determined the SSR marked are not useful indicators of poinsettia cultivar identity and relationship. This response has been thoroughly reviewed but not found persuasive because the claims are not drawn to a method of identifying poinsettia's by using SSR or microsatellites. The claims are drawn to method of identifying poinsettias by AFLP.

The response asserts on page 11, last paragraph, that the cited references are completely silent with regard to use of fingerprint analysis to evaluate breeding history to determine whether

a plant is derived from a known cultivar. This response has been thoroughly reviewed but was not found persuasive because Barcaccia et al. teach using AFLP to generate a fingerprint of each plant (page 245, *AFLP markers*) and determine the identity/diversity by calculating the genetic dissimilarly estimate (GDE) in all pair wise comparisons using the formula by Dice et al (1945) (page 245-6, *Data collection and analysis*). Furthermore, Barcaccia et al. teach using AFLP markers to identify the genetic relationship (identity vs. diversity) (breeding history) between a found flower and another plant (see page 244, 1st column, 2nd full paragraph). Therefore, Barcaccia et al. teach using AFLP markers to identify the breeding history of a plant (the found flower to a known plant). Therefore, Barcaccia et al. teach using AFLP markers to evaluate the breeding history of an asexual plant.

For these reasons, and the reasons made of record in the previous office actions, the rejection is maintained.

Maintained Rejections

Claim Rejections - 35 USC § 103

12. The rejection of claims 1, 3, 5-7, 21, 23-24, 30, 63 and 69 under 35 USC §103(a) as being unpatentable over Ling et al. (*HortScience*, 1997) in view of Sukhwinder et al. (*Crop Improvement*, 1998), as defined by Dice (*Ecology*, 1945) in section 18, pages 6-8 of the previous office action, is maintained and incorporated herein (see pages 6-8 of previous office action, mailed 3/10/2004).

Response to Arguments

13. The response traverses the rejection on the grounds that the office has failed to establish a prima facie case of obviousness. The response traverses that it would not have been obvious at the time of the invention to use AFLP analysis to evaluate genetic relationships in poinsettia plants. The response asserts that the use of AFLP in rice is distinct from its application to poinsettias, asserting that rice is a sexually reproducing crop with a broad genetic pool and the study of rice genetics is quite advanced in contract to a limited number of molecular studies performed with floral crops. The response asserts that AFLP analysis just recently has been used on ornamentals and it was not obvious at the time of the invention to use AFLP to study genetic fingerprint of poinsettias. The response further asserts that there would have been no reasonable expectation for the ordinary skilled worker that one would be able to apply AFLP analysis to determine genetic relationships among poinsettia cultivars. These arguments have been thoroughly reviewed but were not found persuasive. While Sukhwinder et al. does not teach using AFLP to determine genetic relationships for poinsettias cultivars, it would have been obvious to one skilled in the art at the time of the invention to use AFLP method taught by Sukhwinder to determine genetic relationships for poinsettias cultivars because Sukhwinder et al. teaches that although other fingerprinting methods such as RFLP and RAPD assays had been commonly used to discriminate *various* cultivars, the new technique of using AFLP "combines reliability and robustness of RFLP and strength of PCR techniques". Therefore, one of skill in the art would have been motivated to use the method of Sukhwinder et al. with poinsettia cultivars as Sukhwinder et al. suggest that this new technique can discriminate *various* cultivars, which could include poinsettia cultivars.

For these reasons, and the reasons made of record in the previous office actions, the rejection is maintained.

Maintained Rejections

Claim Rejections - 35 USC § 103

14. Claims 1, 3, 5-6, 21, 23, 30, 63 and 69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ling et al. (*HortScience*, 1997), in view of Barker et al. (*Genome*, 1999) as defined by Tullos (Offprint from Palm ME and IH Chapela, eds, 1997) in section 19, pages 8-10 of the previous office action, is maintained and incorporated herein (see pages 8-10 of previous office action, mailed 3/10/2004).

Response to Arguments

The response traverses that it would not have been obvious to one of ordinary skill in the art at the time of the invention was made to improve the poinsettia cultivar genetic analysis method of Ling et al. and modify the RAPD using AFLP techniques as per the teachings of Baker et al. The response asserts that Barker et al. uses RAPD and AFLP to characterize genetic diversity in 19 willow cultivars and the willow cultivars is a crop plant and distinguishable from an ornamental plant. The response asserts that the work of Barker et al. with willow cultivars can not render the instant application obvious with respect to AFLP assay for genetic analysis of poinsettias. This argument has been thoroughly reviewed but was not found persuasive because the willow is an asexual plant, like the poinsettia, and the genetic variation, regardless of the origin of DNA, is analyzed and evaluated in the same manner. Barker et al. teach the AFLP assay "revealed more genetic diversity and discriminated between closely related clones" (p.

182, 1st column, 2nd paragraph) and therefore the ordinary artisan would have been motivated to use the assay of AFLP to determine genetic variation in poinsettias

For these reasons, and the reasons made of record in the previous office actions, the rejection is maintained.

Conclusion

15. Claims 2, 4, 10, 11, 22, 27-29, 52, and 64 are free of the cited prior art and are objected to for being dependent on rejected claims. The claims would be allowable if rewritten with all claim limitations from claims which they depend.

16. Claims 1, 3, 5-7, 21, 23-24, 30, 63 and 69 are not allowable over the cited prior art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sarae Bausch whose telephone number is (571) 272-2912. The examiner can normally be reached on M-F 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Jones can be reached on (571) 272-0745. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199.

Jehanne Sitton

JEHANNE SITTON
PRIMARY EXAMINER

8/8/05

Sarae Bausch
Examiner
Art Unit 1634